



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,342	06/25/2003	Seishin Mikami	4041J-000732	2633
27572	7590	01/23/2006	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			TRAN, CHUC	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,342

Applicant(s)

MIKAMI ET AL.

Examiner

Chuc D. Tran

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


TAN HO
PRIMARY EXAMINER

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/21/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

This is a response to the Applicant's amendment submitted on November 10, 2005. In virtue of this amendment, claims 12 and 13 have been added, claim 9 has been cancelled; and thus, claims 1-8 and 10-13 are now remaining active in the instant application.

Response to Arguments

1. Applicant's arguments filed November 10, 2005 have been fully considered but they are not persuasive.

Applicants argue that the patent by Egashira et al fails teach or suggest the antenna mounted to a vehicle body with a through hole. The Examiner respectfully disagrees. The Egashira clearly teach the antenna mounted to a vehicle body with a through hole See (Egashira Fig. 11).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 7-8, and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Egashira et al (USP. 5,539,418).

Regarding claim 7, Egashira et al disclose a method for mounting a planar antenna on a vehicle, the planar antenna having a radiating element and a ground plate, the method comprising the steps of:

Art Unit: 2821

- boring a hole through a body of the vehicle (Fig. 11), the hole defining an imaginary body (92) disposed in the hole and continuous with the body of the vehicle (Fig. 23); and locating the planar antenna in the through hole (Fig. 23) so that the imaginary body (92) is positioned between the radiating element (20) and the ground plate (10) (See. Fig. 23).

Regarding claim 8, Egashira et al disclose an antenna apparatus mounted in a through hole defined by a metal attachment plate the antenna apparatus in Fig. 23, comprising:

- a planar antenna having a radiating element (20) and a ground plate (10) (Fig. 23), wherein

- the radiating element (20) is spaced in one direction from one surface of the metal attachment plate (30) (Fig. 23);

- the ground plate (10) is spaced in an opposite direction from an opposite surface of the metal attachment plate (30) such that the imaginary body (92) is interposed between the radiating element (20) and the ground plate (10) (Fig. 24); and

- the metal attachment plate (30) is integral with a vehicle body (90) (Fig. 23).

Regarding claim 10, Egashira et al disclose an antenna apparatus mounted on a vehicle, the antenna apparatus comprising:

- a planar antenna having a radiating element (20) and a ground plate (10) (Fig. 1); and

- a metal vehicular body (90), the vehicular body defining a through hole which has an internal edge (Fig. 9) and an imaginary body (92) that is disposed within the through hole and is continuous with the vehicle body (Fig. 23); wherein

- the imaginary body (92) is located between the radiating element (20) and the ground plate (10) See (Fig. 23).

Art Unit: 2821

Regarding claim 11, Egashira et al disclose an antenna apparatus mounted in a hole defined by a vehicle body made of metal, the antenna apparatus comprising:

- a planar antenna having a radiating element (20) and a ground plate (10) (Fig. 1); and
- a metal plate (30) positioned between the radiating element (20) and the ground plate (10) (Fig. 23); wherein
- the radiating element (20) is spaced in one direction from one side of the vehicle body (90) (Fig. 1);
- the ground plate (20) is spaced in an opposite direction from an opposite side of the vehicle body (90) (Fig. 9); and
- the vehicle body (90), the metal plate (30) and the ground plate (10) are electrically connected to each other to be at the same electric potential (Abstract) (Fig. 23).

Regarding claim 12, Egashira et al disclose that the vehicle body defines a concavity (92) (Fig. 9), the through hole is formed in the bottom of the concavity (92) (Fig. 9), and

- the radiating element (20) is positioned in the concavity (92) (Fig. 9).

Regarding claim 13, Egashira et al disclose that the radiating element (20), the ground plate (10) and the metal plate (30) are molded by a resin (Col. 4, Line 31).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2821

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egashira et al (USP. 5539418).

Regarding claim 1, Egashira et al disclose an antenna apparatus mounted in a through hole defined by a vehicle body made of metal in Fig. 11, the antenna apparatus comprising:

- a planar antenna having a radiating element (20) and a ground plate (10),

wherein the ground (10) is spaced in one direction from one surface of the vehicle body (90). However, Egashira does not teach the radiating element (20) is spaced from opposite direction surface of the vehicle body. Thus, it would have been obvious to one of ordinary skill in the art to recognize Egashira by shipping up the antenna in Fig. 11 to make the radiating element (20) is spaced in one direction from one surface of the vehicle body (90) (Egashira, Fig. 11). The ordinary artisan would have been motivated to modify Egashira et al in the manner described above for improving the transmission gain in the horizontal direction See (Egashira, Col. 1, Line 33).

Regarding claim 2, Egashira et al disclose that the vehicle body defines a concavity (92) (Fig. 9), the through hole is formed in the bottom of the concavity (92) (Fig. 9), and

- the radiating element (20) is positioned in the concavity (92) (Fig. 9).

Regarding claim 3, Egashira et al disclose that a metal plate (30) positioned between the radiating element (20) and the ground plate (10) (Fig. 23).

Regarding claim 4, Egashira et al disclose that the vehicle body (90), the metal plate (30) and the ground plate (10) are electrically connected to each other to be at the same electric potential (80) (Fig. 23).

Regarding claim 5, Egashira et al disclose that the vehicle body (90) and the metal plate

Art Unit: 2821

(30) are connected by an electrical connection element (50) (Fig. 9) (Col. 7, Line 26).

Regarding claim 6, Egashira et al disclose that the radiating element (20), the ground plate (10) and the metal plate (30) are molded by a resin (Col. 4, Line 31).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2821

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TC
January 16, 2006


TAN HO
PRIMARY EXAMINER